

Amendments to the Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An articulated boom comprising for a space based antenna reflector system having an antenna reflector supported on said boom; wherein:

said boom comprises a support arm defining a number having a plurality of hingedly connected hinged joints; [[, the]]

said support arm being is adapted and arranged to carry [[an]] the antenna reflector so that in use, the antenna reflector can move between a first, stowed, position in which the reflector is nested within a predetermined volume of a spacecraft; in-folded condition and a second, deployed, position in which the reflector is [[in]] deployed condition in space outside said predetermined volume;

said support arm includes a dog-leg portion that permits stowage of said antenna reflector in said stowed position; and

said dog-leg portion is configured and positioned such that it extends at least partially along a circumference of the antenna reflector when said antenna reflector is in said stowed position.

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Currently Amended) [[An]] The articulated boom as claimed in claim [[4,]] 1, wherein at least one or more of said hinged hingedly connected joints comprises an articulated stepper motor harmonic drive unit.

6. (Currently Amended) [[An]] The articulated boom as claimed in claim [[5,]] 1, wherein at least one or more of said hinged hingedly connected joints comprises a spring-operated mechanical hinge.

7. (Cancelled)

8. (Cancelled)

9. (Cancelled)

10. (Currently Amended) [[An]] The articulated boom as claimed in claim [[9,]] 1, wherein the support arm is eonfigured to be sufficiently long so as to carry an antenna reflector of around approximately 3.5 metres diameter with an associated focal length of around approximately 7 metres.

11. (Currently Amended) [[An]] The articulated boom as claimed in claim [[10,]] 1, wherein the hinged hingedly connected joints are bolted using metal bracket means brackets with a degree of flexibility to accommodate for changes in [[the]] material properties of the boom in response to temperature variations between +140°C and -180°C.

12. (Currently Amended) [[An]] The articulated boom as claimed in claim [[11,]] 1, wherein:

one end of the support arm is mounted to [[the]] an associated feed structure of the spacecraft; vehicle and

the opposing end of the support arm is mounted to the antenna reflector.

13. (Currently Amended) [[An]] The articulated boom as claimed in claim 12, wherein:

~~the reflector when in stowed position, the antenna reflector is foldably mounted to a sidewall of the spacecraft vehicle on a plurality of hold-down points; and which~~

~~said hold-down points are operably released prior to deployment of the reflector.~~

14. (Currently Amended) [[An]] ~~The articulated boom as claimed in claim 13, wherein said hold-down points are formed such as to provide a degree of compliance, such that in a plurality of predetermined directions, permitting the boom and the spacecraft structure do not impart to avoid imparting unwanted thermal expansion loads on each other.~~

15. (Currently Amended) A space ~~spacecraft comprising:~~
~~vehicle incorporating into at least one side thereof at least two booms of the type [[as]] claimed in claim [[14,]] 1; and~~
~~enabling at least two antenna reflectors to be deployed from said at least one that are deployable on said booms from at least one side of the space vehicle spacecraft.~~

16. (Currently Amended) [[A]] ~~The spacecraft space vehicle as claimed in claim 15, wherein support arms of the at least two booms are~~

positioned at a circumference of associated reflectors when in the stowed position, [[such]] so as to allow the reflectors to be stacked together within a space defined by an associated launch vehicle fairing.

17. (Currently Amended) A spacecraft ~~space~~-vehicle incorporating into at least one side thereof a hinged hingedly mounted support structure including an antenna reflector with a boom of the type claimed as defined in claim [[14.]] 1.

18. (Currently Amended) [[A]] The satellite or spacecraft ~~space~~ vehicle as claimed in claim 17 wherein [[the]] an associated feed structure is mounted to a separately-formed floor of the space vehicle.

19. (Currently Amended) A spacecraft ~~space~~-vehicle incorporating into at least one side thereof of its sides

(a) a first hingedly mounted hinge-mounted support structure including an antenna reflector with a boom as claimed defined in claim [[14;]] 1; and

(b) a second different hingedly mounted hinge-mounted support structure for carrying a plurality of antenna reflectors.

20. (Currently Amended) A reflector system for space-based applications incorporating an antenna reflector with supporting boom as claimed defined in claim [[14.]] 1.

21. (Currently Amended) An antenna structure incorporating a reflector system as claimed defined in claim 20.

22. (Cancelled)

23. (Cancelled)

24. (Currently Amended) A method of stacking a plurality of deployable antenna reflectors in spacecraft, said method comprising:

providing a first antenna reflector with a first articulated boom having a support arm defining a number of hingedly connected hinged joints, the arm being adapted and arranged to carry an antenna reflector so that in use, the reflector can move between a first stowed position in which the reflector is in folded condition and a second deployed position in which the reflector is in deployed condition;

moving said first antenna reflector to a first nesting position close to a sidewall of the spacecraft in such a manner that its supporting boom follows a circumference of the first antenna reflector along a first path;

providing a second antenna reflector with a second articulated boom which is substantially identical to the first articulated boom; and moving said second antenna reflector to a second nesting position close to the sidewall of the spacecraft in such a manner that its supporting boom follows a circumference of the second antenna reflector along a second path such that the first and second reflectors are juxtaposed in a stacked relationship.

25. (Cancelled)

26. (New) The articulated boom as claimed in claim 1, wherein, in said stowed position, said dog-leg portion lies within a first plane that is substantially parallel to a second plane defined by said antenna reflector.

27. (New) The articulated boom as claimed in claim 26, wherein:
the dog-leg portion is coupled to the spacecraft by a hinged joint that provides for pivotal rotation of said dog-leg portion about a pivot axis; and said pivotal axis is substantially parallel to said first plane.